Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte HARALD LICHTINGER, RALF OESTREICHER, and JOSEF DIRMEYER

Appeal No. 2003-1800
Application No. 09/507,868

ON BRIEF

Before HAIRSTON, GROSS, and BARRY, *Administrative Patent Judges.*
BARRY, *Administrative Patent Judge.*

DECISION ON APPEAL

A patent examiner rejected claims 1-7, 21, 24-27, and 29-38. The appellants appeal therefrom under 35 U.S.C. § 134(a). We affirm-in-part.

BACKGROUND

The invention at issue on appeal measures the weight of an occupant and controls deployment of an airbag based on the measured weight. Most vehicles include airbags and seatbelts that collectively protect their driver and passengers from serious injuries during a high speed collision. The deployment force of the airbags and the

pretensioning force of the seatbelts should be varied based on the size of the driver or the passenger it is to protect. The respective weights of the occupants can be used to control these forces. If a small child occupies a passenger seat, for example, the weight on the seat will be less than if an adult occupies it. (Spec. at 1.)

Accordingly, the appellants' invention is incorporated into a vehicular seat on inboard and outboard track assemblies. A first sensor assembly is mounted to the inboard track assembly; a second sensor assembly, to the outboard track assembly. Respectively measuring deflection of the inboard and outboard track assemblies from the weight of an occupant, the first and second sensor assemblies each generate signals. A central processor uses the first and second signals to calculate the occupant's weight. The weight is used to control the deployment of an airbag. (*Id.* at 18.)

A further understanding of the invention can be achieved by reading the following claims.

> 1. A system for measuring weight of an occupant seated on a vehicle seat comprising:
>
> a first track mounted to a vehicle structure;
>
> a second track supported for movement relative to said first track for adjustment along a longitudinal axis and being deflectable in a vertical

direction due to an occupant weight force generated by the occupant sitting on the vehicle seat; and

at least one sensor mounted on one of said tracks for generating a signal representative of said occupant weight force.

31. A method for determining weight of a seat occupant comprising the steps of:

providing a first track mounted to a vehicle structure and a second track supported for movement relative to the first track to form a first track assembly

mounting a first sensor assembly to the first track assembly;

generating a first signal from the first sensor assembly in response to deflection of the first track assembly due to seat occupant weight generated by the occupant sitting on the vehicle seat; and

determining seat occupant weight based on said first signal.

Claims 1-7, 24-27, 29, and 31-37 stand rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 5,942,695 ("Verma"). Claims 21, 30, and 38 stand rejected under 35 U.S.C. § 103(a) as obvious over Verma.

OPINION

Our opinion addresses the claims in the following order:

- claims 1-4 and 24
- claim 5
- claims 6 and 7
- claims 25-27 and 29

- claims 31 and 32
- claims 33-36
- claim 37
- claims 21, 30, and 38.

A. CLAIMS 1-4 AND 24

"[T]o assure separate review by the Board of individual claims within each group of claims subject to a common ground of rejection, an appellant's brief to the Board must contain a clear statement for each rejection: (a) asserting that the patentability of claims within the group of claims subject to this rejection do not stand or fall together, and (b) identifying which individual claim or claims within the group are separately patentable and the reasons why the examiner's rejection should not be sustained." *In re McDaniel*, 293 F.3d 1379, 1383, 63 USPQ2d 1462, 1465 (Fed. Cir. 2002) (citing 37 C.F.R. §1.192(c)(7) (2001)). "If the brief fails to meet either requirement, the Board is free to select a single claim from each group of claims subject to a common ground of rejection as representative of all claims in that group and to decide the appeal of that rejection based solely on the selected representative claim." *Id.*, 63 USPQ2d at 1465.

Here, the appellants argue claims 1-4 and 24 as "Group A." (Reply Br. at 2-4.) We select claim 1 as representative of the claims therein. With this representation in mind, rather than reiterate the positions of the examiner or the appellants *in toto*, we focus on the point of contention therebetween. The examiner finds that Verma's "strain

gauges are 'mounted to the seat tracks' as argued, maybe not directly mounted to the seat tracks but nonetheless, mounted to the seat tracks because the sensors 30 are mounted to the brackets 16 and the brackets are mounted to the seat tracks 26." (Examiner's Answer at 12-13.) The appellants argue, "Verma does not teach mounting a sensor to a seat track, as claimed by Appellant, but instead teaches mounting the sensor to the risers." (Reply Br. at 2.)

In addressing the point of contention, the Board conducts a two-step analysis. First, we construe the representative claim at issue to decide its scope. Second, we decide whether the construed claim is anticipated.

1. Claim Construction

"Analysis begins with a key legal question — *what* is the invention *claimed*?" *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1567, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987). In answering the question, "the Board must give claims their broadest reasonable construction. . . ." *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1668 (Fed. Cir. 2000). "Moreover, limitations are not to be read into the claims from the specification." *In re Van Geuns*, 988 F.2d 1181, 1184, 26 USPQ2d 1057, 1059 (Fed. Cir. 1993) (citing *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)).

Here, contrary to the appellants' argument, claim 1 does not specify mounting a sensor "to" a seat track. (Reply Br. at 2.) Instead, the representative claim merely recites in pertinent part the following limitations: "at least one sensor mounted on one of said tracks. . . ." Giving claim 1 its broadest, reasonable construction, the limitations require a sensor mounted directly or indirectly on a track.

2. Anticipation Determination

"Having construed the claim limitations at issue, we now compare the claims to the prior art to determine if the prior art anticipates those claims." *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349, 64 USPQ2d 1202, 1206 (Fed. Cir. 2002). "[A]nticipation is a question of fact." *Hyatt*, 211 F.3d at 1371, 54 USPQ2d at 1667 (citing *Bischoff v. Wethered*, 76 U.S. (9 Wall.) 812, 814-15 (1869); *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997)). "A claim is anticipated . . . if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (citing *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 715, 223 USPQ 1264, 1270 (Fed. Cir. 1984); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir. 1983); *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983)). Of course, "this is not an 'ipsissimis verbis' test." *In*

re Bond, 910 F.2d 831, 832, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990) (citing *Akzo N.V. v. United States Int'l Trade Comm'n*, 808 F.2d 1471, 1479 & n.11, 1 USPQ2d 1241, 1245 & n.11 (Fed. Cir. 1986)).

Here, Verma discloses an "apparatus for determining the seated weight of a seat occupant using strain gauges on the seat structure." Col. 1, ll. 7-9. More specifically, a "vehicle seat 10 has a seat cushion 12 which includes a support 14 such as a seat pan or suspension at its bottom. The support 14 is attached to brackets 16, one on each side, by bolts 17. Each bracket has a front riser portion 18 and a rear riser portion 20 which engage the support 14, and an intermediate beam 22 interconnecting the riser portions." Col. 2, ll. 13-19. As shown in the embodiment of Figure 4, "strain gauges 30 on the two beams 22 will respond to the total force applied to the brackets." *Id.* at ll. 52-53. "The brackets 16, in turn are mounted by bolts 25 on tracks 26 which allows fore and aft adjustment of the seat. Support feet 28 are connected to the four corners of the tracks 26 and are bolted to the vehicle floor. . . ." *Id.* at ll. 20-24.

Referring to the strain gauges 30 as "the **sensors 30** on the beams 22," (Reply Br. at 3 (emphasis added)), the appellants admit the gauges are sensors. Because each strain gauge 30 is mounted on the beam of each bracket 16, and each bracket is mounted on a track 26, we find that each gauge is mounted **indirectly** on a track. For

its part, claim 1 does not exclude such indirect mounting. Therefore, we affirm the anticipation rejection of claim 1 and of claims 2-4 and 24, which fall therewith.

B. CLAIM 5

The examiner asserts, "the sensor (30) is positioned at the center of the second track (16). . . ." (Examiner's Answer at 5.) The appellants argue, "the examiner admits that the sensor is positioned at the center of the second track and not the first track as claimed by Appellant." (Reply Br. at 4.)

1. Claim Construction

"The general rule is, of course, that terms in the claim are to be given their ordinary and accustomed meaning." *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 989, 50 USPQ2d 1607, 1610 (Fed. Cir. 1999) (citing *Renishaw PLC v. Marposs Societa Per Azioni*, 158 F.3d 1243, 1249, 48 USPQ2d 1117, 1121 (Fed. Cir. 1998); *York Prods., Inc. v. Central Tractor Farm & Family Ctr.*, 99 F.3d 1568, 1572, 40 USPQ2d 1619, 1622 (Fed. Cir. 1996)). "It is well settled that dictionaries provide evidence of a claim term's 'ordinary meaning.'" *Inverness Med. Switz. GmbH v. Warner Lambert Co.*, 309 F.3d 1365, 1369, 64 USPQ2d 1926, 1930 (Fed. Cir. 2002) (citing *Texas Digital Sys. Inc. v. Telegenix Inc.*, 308 F.3d 1193, 1202, 64 USPQ2d 1812, 1818

(Fed. Cir. 2002); *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366, 62 USPQ2d 1658, 1662 (Fed. Cir. 2002)).

Here, contrary to the appellants' argument, claim 5 does not specify positioning the sensor "at" the center of a seat track. (*Id.*) Instead, the dependent claim merely recites in pertinent part the following limitations: "said at least one sensor is positioned **along** said central track portion." (Emphasis added.) The ordinary meaning of the term "along" is "in a line parallel with the length or direction of." *Webster's Ninth New Collegiate Dictionary* 73 (2d ed. 1990). Giving claim 5 its broadest, reasonable construction, and giving the term its ordinary meaning, the limitations merely require positioning the sensor in a line parallel with the length or direction of the central part of the track.

2. Anticipation Determination

We find that Figure 4 of Verma shows each strain gauge 30 as positioned in a line parallel with the length of a track 26 and, more specifically, in a line parallel with the center of the track 26. Therefore, we affirm the anticipation rejection of claim 5.

C. CLAIMS 6 AND 7

The appellants argue claims 6 and 7 as "Group C." (Reply Br. at 5.) We select claim 6 as representative of the claims therein.

The examiner finds that in Verma's "alternate embodiment as shown in fig. 1, . . . the sensor may be comprised of a first sensor (30) positioned forward of the center of the second track (16) and a second sensor (30) positioned rearward of the center of the second track (16). Nonetheless, the first and second sensors measure deflection of the second track. . . ." (Examiner's Answer at 6.) The appellants argue, "the sensors 30 in Verma are mounted to the risers 18, 20, not the seat track, and therefore the sensors measure deflection of the riser, not the seat track." (Reply Br. at 6.)

1. Claim Construction

Claim 6 recites in pertinent part the following limitations: "measuring deflection of said second track. . . ." Giving the representative claim its broadest, reasonable construction, the limitations merely require measuring deflection of a track.

2. Anticipation Determination

As shown in Figure 1 of Verma, "[s]train gauges 30 are rigidly attached (as by welding) to the front and rear riser portions of the brackets 16 such that they respond to

the full occupant seated weight whether transmitted only through the cushion 12 or partially through the seat back 24. In this manner the entire weight is measured and an accurate assessment of the occupant size can be determined by suitably combining the strain gauge outputs." Col. 2, ll. 29-36. The "brackets 16 . . . are mounted by bolts 25 on tracks 26. . . . " *Id.* at ll. 20-21. More specifically, the Figure shows that the brackets are mounted flush to the tracks. Because the brackets and tracks are mounted flush, we find that the occupant's weight equally deflects the brackets and the tracks. By measuring the deflection of the brackets, we find that the strain gauges also measure the deflection of the tracks. Therefore, we affirm the anticipation rejection of claim 6 and of claim 7, which falls therewith.

D. CLAIMS 25-27 AND 29

The examiner asserts, "Fig. 4 clearly shows the second track (16), wherein the second track is interpreted as part of a 'track assembly', having a forward end and a rearward end with a central portion in between." (Examiner's Answer at 7.) "The forward and rearward ends are clearly larger than the central portion. Thus, the cross-sectional area of the central portion would be clearly smaller than the cross-sectional area of the end portions." (*Id.*) The appellants argue, "[t]he 'seat track' to which the examiner is referring is not a seat track but is instead a riser, as clearly described in Verma." (Reply Br. at 11.)

1. Claim Construction

Claim 25 recites in pertinent part the following limitations: "at least one track portion having a cross-sectional area that is less than said predetermined cross-sectional area. . . ." Giving the representative claim its broadest, reasonable construction, the limitations merely require that the cross-sectional area of one part of a track is less than the cross-sectional area of another part thereof.

2. Anticipation Determination

"[A]bsence from the reference of any claimed element negates anticipation." *Kloster Speedsteel AB v. Crucible, Inc.,* 793 F.2d 1565, 1571, 230 USPQ 81, 84 (Fed. Cir. 1986). Here, although the examiner refers to the elements numbered "16" of Verma as tracks, these elements are "brackets 16." Col. 2, l. 16. The elements numbered "26" are the reference's "tracks." *Id.* at l. 21. We agree with the appellants, moreover, that Figures 1, 3, and 4 of the reference show that each "track has a constant cross-sectional area along its length." (Appeal Br. at 14.) Therefore, we reverse the anticipation rejection of claim 25 and of claims 26, 27, and 29, which depend therefrom.

E. CLAIMS 31 AND 32

The appellants argue claims 31 and 32 as "Group I." (Reply Br. at 12-13.) We select claim 31 as representative of the claims therein.

The examiner finds, "Verma et al. teach . . . generating a first signal from the first sensor assembly in response to deflection of the first track 'assembly' due to seat occupant weight generated by the occupant sitting on the vehicle seat (col. 2, lines 29-36 and 43-53). . . ." (Examiner's Answer at 7-8.) The appellants argue, "[t]he sensors 30 in Verma do not measure deflection of the tracks 26 because the sensors 30 are mounted to a seat component 16 at a position located above the seat tracks 26. " (Reply Br. at 13.)

1. Claim Construction

Claim 31 recites in pertinent part the following limitations: "providing a first track mounted to a vehicle structure and a second track supported for movement relative to the first track to form a first track assembly . . . generating a first signal from the first sensor assembly in response to deflection of the first track assembly due to seat occupant weight generated by the occupant sitting on the vehicle seat. . . ." Giving the representative claim its broadest, reasonable construction, the limitations require

providing a track assembly that includes first and second tracks and generating a signal in response to deflection of the assembly.

2. Anticipation Determination

The appellants admit that the "component 26 in Verma, clearly includes both the first and second tracks. . . ." (Reply Br. at 4.) Because claim 31 is open-ended, moreover, it does not preclude its track assembly from comprising components beyond the first and second tracks. *See Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261, 1271, 229 USPQ 805, 812* (Fed. Cir. 1986) ("a transitional term such as 'comprising' or . . . 'which comprises,' does not exclude additional unrecited elements, or steps. . . .") Accordingly, we find that the claimed "track assembly" reads on the combination of the reference's first track, second track, and bracket.

As mentioned regarding claims 6 and 7, Verma's strain gauges 30 are rigidly attached to the beams 22 of the brackets 16. As "an unsupported central portion," of each bracket (Appeal Br. at 18), each beam is allowed to flex slightly. Consequently, the "strain gauges 30 on the two beams 22 will respond to the total force applied to the brackets." Col. 2, ll. 52-53. "In this manner the entire weight is measured and an accurate assessment of the occupant size can be determined by suitably combining the strain gauge outputs." *Id.* at ll. 31-36. Because the strain gauges generate output

signals in response to the total force applied to the brackets, and the brackets form part of the track assemblies, we find that the reference generates a signal in response to deflection of the track assembly. Therefore, we affirm the anticipation rejection of claim 31 and of claim 32, which falls therewith.

F. CLAIMS 33-36

The appellants argue claims 33-35 as "Group J." (Reply Br. at 13-14.) We select claim 33 as representative of the claims therein.

The examiner finds, "each track assembly contains the segment (22), whereon the sensor (30) is mounted, that is less than the predetermined cross-sectional area because the segment (22) is clearly more narrow than the rest of the assembly (fig. 4)." (Examiner's Answer at 8-9). The appellants argue, "because component 16 is not a track, and could not be interpreted as corresponding to a track, there is no teaching in Verma of the seat tracks having a track portion with a reduced cross-sectional area in which the sensors are mounted." (Reply Br. at 14.)

1. Claim Construction

Contrary to the appellants' argument, claim 33 does not specify that "seat tracks" have a track portion with a reduced cross-sectional area in which sensors are mounted.

(*Id.*) Instead, the representative claim merely recites in pertinent part the following limitations: "each track assembly has at least one track segment with a cross-sectional area that is less than the predetermined cross-sectional area and further including the steps of mounting the first sensor assembly in the track segment of the first track assembly and mounting the second sensor assembly in the track segment of the second track assembly." Giving claim 33 its broadest, reasonable construction, the limitations require that the track assembly include a track portion having a reduced cross-sectional area in which a sensor is mounted.

For its part, claim 36 recites in pertinent part the following limitations: "locating the track segment in the center portion." Giving the claim its broadest, reasonable construction, the limitations require that the track portion be located near the center of the track assembly.

2. Anticipation Determination

Regarding claims 31 and 32, we previously found that the claimed "track assembly" reads on the combination of Verma's first track, second track, and bracket. As mentioned regarding claims 1-4 and 24, moreover, each bracket 16 comprises a front riser portion 18, a rear riser portion 20, and a middle beam portion 22.

Each strain gauge 30 is mounted on the beam portion 22, i.e., the "unsupported central portion." (Appeal Br. at 18.)

Figure 4 of the reference, moreover, shows that the beam is thinner than the front and rear risers, which implies that the beam's cross-sectional area is smaller than that of the front and rear risers. Because the track assembly includes the bracket, therefore, we find that the part of the track assembly on which the sensor is mounted features a reduced cross-sectional area. Therefore, we affirm the anticipation rejection of claim 33 and of claims 34 and 35, which fall therewith.

The Figure also shows that the beam portion is located near the center of the bracket and tracks. Therefore, we affirm the anticipation rejection of claim 36.

G. CLAIM 37

The examiner finds, "Verma et al. teach, in the form of an alternate embodiment as shown in fig. 1, that the sensor may be comprised of a first sensor (30) mounted rearwardly within the first track 'assembly' and a second sensor (30) mounted forwardly within the first track 'assembly'." (Examiner's Answer at 9.) The appellants argue, "none of these gages [sic] are mounted within the tracks 26 in Verma." (Reply Br. at 16.)

1. Claim Construction

Contrary to the appellants' argument, claim 37 does not specify that sensors are mounted within "tracks." (*Id.*) Instead, the claim merely recites in pertinent part the following limitations: "the first sensor assembly is comprised of a first sensor mounted rearwardly within the first track assembly and a second sensor mounted forwardly within the first track assembly and wherein the second sensor assembly is comprised of a third sensor mounted rearwardly within the second track assembly and a fourth sensor mounted forwardly within the second track assembly." Giving claim 37 its broadest, reasonable construction, the limitations require two sensors within each track assembly.

2. Anticipation Determination

As mentioned regarding claims 6 and 7, in the embodiment shown in Figures 1 and 2 of Verma, the strain gauges 30 are rigidly attached to the front riser 18 and rear riser 22 of each bracket 16. Because each track assembly includes a bracket, we find that two sensors are mounted within each track assembly. Therefore, we affirm the anticipation rejection of claim 37.

H. CLAIMS 21, 30, AND 38

Admitting that "Verma et al. fail to teach the sensor being attached to, what has been deemed as, the first track (26)," (Examiner's Answer at 10), the examiner concludes, "it would have been within the realm of one having ordinary skill in the art that both tracks will flex and either could be used to mount a sensor to determine occupant seat weight." (*Id.* at 11.) The appellants argue, "[t]he examiner has pointed to . . . particular benefit to be derived from moving the sensor 30 from the riser to the track member that is mounted to a vehicle structure." (Reply Br. at 7-8.)

1. Claim Construction

Claim 21 recites in pertinent part the following limitations: "said sensor is mounted to said first track." Claims 30 and 38 include similar limitations. Claims 1 and 31, from which claims 21 and 30 and 38 respectively depend, specify that the first track is "mounted to a vehicle structure. . . ." Accordingly, the dependent claims require mounting a sensor to a track, which is mounted to a vehicle's structure.

2. Obviousness Determination

"The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." *In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780,

178-84 (Fed. Cir. 1992) (citing *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984)). "[T]he factual inquiry whether to combine references must be thorough and searching." *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001). This factual question cannot "be resolved on subjective belief and unknown authority," *In re Lee*, 277 F.3d 1338, 1343-44, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002); "[i]t must be based on objective evidence of record." *Id.* at 1343, 61 USPQ2d at 1434. Although couched in terms of combining references, we hold the same requirements apply to modifying references. *Ex parte Barbur*, Appeal No. 1998-3339, at 9 (Bd.Pat.App. & Int. 2001), *available at* http://www.uspto.gov/web/offices/dcom/bpai/decisions/fd983339.pdf. Namely, the factual inquiry whether to modify references must be thorough and searching. The inquiry cannot be resolved on subjective belief and unknown authority; it must be based on objective evidence of record.

Here, the examiner does not allege, let alone show, the desirability of moving Verma's strain gauges 30 from the brackets 16 to tracks 26, which are bolted to the vehicle's floor. Therefore, we reverse the obviousness rejection of claims 21, 30, and 38.

CONCLUSION

In summary, the rejection of claims 1-7, 24, and 31-37 under § 102(e) is affirmed. The rejection of claims 25-27 and 29 under § 102(e) and the rejection of claims 21, 30, and 38 under § 103(a), however, are reversed.

"Any arguments or authorities not included in the brief will be refused consideration by the Board of Patent Appeals and Interferences. . . ." 37 C.F.R. § 1.192(a). Accordingly, our affirmance is based only on the arguments made in the briefs. Any arguments or authorities omitted therefrom are neither before us nor at issue but are considered waived. *Cf. In re Watts*, 354 F.3d 1362, 1367, 69 USPQ2d 1453, 1457 (Fed. Cir. 2004) ("[I]t is important that the applicant challenging a decision not be permitted to raise arguments on appeal that were not presented to the Board.") No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED-IN-PART

KENNETH W. HAIRSTON
Administrative Patent Judge

ANITA PELLMAN GROSS
Administrative Patent Judge

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) APPEALS
) AND
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